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<p>(21) International Application Number: PCT/AU85/00053</p> <p>(22) International Filing Date: 19 March 1985 (19.03.85)</p> <p>(31) Priority Application Number: PG 4176</p> <p>(32) Priority Date: 21 March 1984 (21.03.84)</p> <p>(33) Priority Country: AU</p> <p>(71) Applicant (for all designated States except US): TECHNICAL AID TO THE DISABLED [AU/AU]; 227 Morrison Road, Ryde, NSW 2112 (AU).</p> <p>(72) Inventors; and (75) Inventors/Applicants (for US only) : COCKBURN, Paul, Anthony [AU/AU]; 1 Caledonia Street, Paddington, NSW 2021 (AU). WHITE, Lynette, Rosalie [AU/AU]; 44 Curtin Road, Balmain, NSW 2041 (AU).</p> <p>(74) Agent: HODGKINSON, Hugh, Rudyard; H.R. Hodgkinson & Co., 26A Alfred Street, Milsons Point, NSW 2061 (AU).</p>		<p>(81) Designated States: AT (European patent), AU, BE (European patent), CH (European patent), DE (European patent), DK, FI, FR (European patent), GB (European patent), JP, KR, NL (European patent), NO, SE (European patent), SU, US.</p> <p>Published <i>With international search report.</i></p>
<p>(54) Title: TELEPHONE AID</p> <p>(57) Abstract</p> <p>A telephone aid of for looping over the ear of the user, comprising a loop-shaped upper part (11) hingedly attached at (12) to a lower part (13), said lower part (13) forming a cradle to support and contain the lower edge of an earpiece (14) of a telephone handset (15). The upper part (11) is looped over the user's ear and the hinge (12) allows the earpiece and mouthpiece of the handset to swing in towards the user's ear and mouth, thus leaving both hands of the user free for other purposes.</p>		

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TELEPHONE AID

FIELD OF THE INVENTION

- THIS INVENTION relates to a telephone aid and is more specifically concerned with a device capable of being easily and cheaply manufactured and which can be fitted to a telephone handset to enable the handset to be "worn" by the user so that his hands are free.

STATE OF THE ART

Various devices have been proposed to enable a telephone handset to be used while leaving the user's hands free.

10. One such device is the headband. This comprises a springy C-shaped member which is sprung over the user's head and has a hanger on one side which grips the earpiece of the telephone handset. Examples of such devices are to be found in United States Patent Specifications Nos. 1,866,043; 3,225,147; 15. 2,408,720; 2,721,234, and 2,843,680.

- A different form of device resembles a cup having its rim portion turned inwardly to provide a cavity into which the flap portion of the user's ear can be comfortably accommodated. A telephone ear piece is supported in the floor of the cup. When 20. the user wishes to use the telephone, he inserts the flap-portion of his ear into the cavity of the cup so that the telephone earpiece is held across his ear. Such a device is illustrated in United States Patent Specification No. 2,606,255; West German Patent Specification No. 1,112,118, and Italian 25. Patent Specification Nos. 413,957 and 514,149.

- Neither of the devices mentioned above are completely satisfactory. The former device using the headband is awkward to use unless the user is prepared to wear it continuously. The latter device using the ear-cup supports the weight of the 30. handset on the flap of the ear, which is not comfortable, and if the shape of the cavity is to correspond to the shape of the ear

- flap to make the device more comfortable to wear, a different shape of cup must be used to suit the user's left ear from that used to suit the user's right ear. A completely round cavity able to accommodate either ear of the user is possible, but then
5. the cup is necessarily a loose fit on the user's ear and this is not comfortable for the user.

OBJECT OF THE INVENTION

- An object of the invention is the provision of a telephone aid which is simple to make and enables the user to support a
10. telephone handset stably from either ear or to be free to use the telephone comfortably without the aid if he so desires.

THE INVENTION

- An aid for supporting a telephone handset with its earpiece next to the ear of the user, comprising: a lower part having means
15. for supporting the earpiece; and an upper part shaped as a loop for passing over the user's ear so that it supports the weight of the aid and handset on the outside upper surface of the root portion of the user's ear.

PREFERRED FEATURES OF THE TELEPHONE

20. The two parts of the aid and the hinge are suitably integrally moulded from a flexible plastics material, the requisite flexibility of the hinge being obtained by using a reduced cross-section of plastics material at that point in the moulding.
25. Conveniently the loop, when viewed in side elevation, is of C-shape with the obtuse angle of the C facing away from the handset.

In the preferred arrangement the lower part of the aid is of arched channel shape to support within the arch the earpiece of

the handset. The hinge preferably provides a resilient bias which urges the earpiece of the handset towards the user's hear.

The invention will now be described in more detail, by way of example, with reference to the accompanying diagrammatic drawings, in which:-

IN THE DRAWINGS

10. FIGURE 1 shows a telephone aid in side elevation, the portion of the telephone handset being shown in broken outline as also is a flexed portion of a looped part of the aid;

FIGURE 2 is a front elevation of figure 1 as seen from the right of that figure; and,

FIGURE 3 is a perspective view of the opposite side of the aid of figure 1.

15. DESCRIPTION OF PREFERRED EMBODIMENT

Referring jointly to all three figures, they show an aid 10 for supporting a telephone handset 15 from an ear of the user with an earpiece 14 of the handset 15 stably held across the ear.

20. The aid 10 is moulded from a resiliently flexible plastics material providing an upper loop-shaped part 11, a lower arched part 13 for cradling the underside of the earpiece 14 of the telephone, and a hinge 12 joining the upper and lower parts and provided by portion of the moulded plastics material of reduced cross-section.

25. As is apparent from figure 1, the loop-shaped part 11 is of L-shape when viewed in side elevation and can be moved about the hinge 12 from the position 16 shown in full outline, at which it lies around the marginal portion of the upper portion of the

- earpiece 14, to the position 17 of use, shown in dotted outline 1, at which the loop 11 is flexed resiliently forwardly from the earpiece so that it can be comfortably and easily looped over the upper portion of the user's ear flap and rested on the root portion of the ear at its junction with the user's head.
- 5.

The natural resilience of the plastics material is such that the hinge 12 provides a natural resilient bias urging the telephone earpiece 14 across the user's ear. The rounded cross-section of the looped part 11 ensures it fits the user comfortably.

10. An arcuate lip 18 provided on the forward face of the cradle 13 assists the retention of the earpiece 14 in the aid 10.

MODIFICATIONS TO PREFERRED EMBODIMENT

- It is not essential for the loop part 11 to be closed, it may, in some circumstances be preferred to have it open. Also, the hinge need not incorporate a resilient bias although it is preferred that it does so. The parts of the aid may be made separately and the use of an integral moulding technique is not essential. Finally, the loop part may be resiliently flexible throughout its length and this may make the hinge unnecessary.
- 15.
20. An easily separable connection may be provided between the earpiece and the lower part of the aid to enable the latter to be detached quickly from the former when the aid is not required. The connection may, for example, comprise a strip fastener having two bands attached, respectively, to the
25. earpiece and the device and formed from fastening materials such as that sold under the Registered Trade Mark VELCRO.

THE CLAIMS DEFINING THE INVENTION ARE AS FOLLOWS:-

1. An aid for supporting a telephone handset with its earpiece next to the ear of the user, comprising: a lower part having means for supporting the earpiece; and an upper part shaped as a loop for passing over the users ear so that it supports the weight of the aid and handset on the outside upper surface of the root portion of the user's ear.
2. An aid as claimed in claim 1, in which the loop is closed.
3. An aid as claimed in claim 1 or claim 2, in which the two parts are hinged together.
4. An aid as claimed in anyone of the preceding claims, including a resiliently yieldable bias urging the loop against the earpiece.
5. An aid as claimed in any one of the preceeding claims, in which the loop is L-shaped when viewed in side elevation with the external angle of the "L" pointing towards the user's ear.
6. An aid as claimed in claim 3 or either of claims 4 or 5 when dependent thereon, in which the two parts and the hinge are formed from an integral moulding of resiliently yieldable plastics material.
7. An aid as claimed in any one of the proceeding claims, including a two element detachable fastener for holding the earpiece of the handset to the lower part of the two elements being attached to the lower part and the other element being attachable to the handset earpiece.
- 8.. An aid as claimed in claim 1, arranged and adopted to be used substantially as described with reference to the accompanying drawing.

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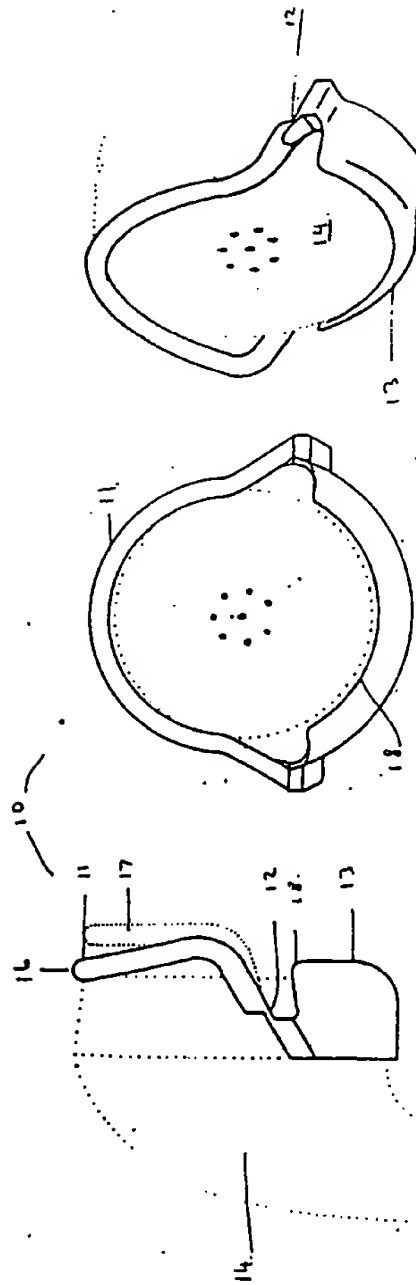


Fig. 1

Fig. 2

Fig. 3

INTERNATIONAL SEARCH REPORT

International Application No. PCT/AU 85/00053

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ⁶ According to International Patent Classification (IPC) or to both National Classification and IPC <div style="margin-left: 40px;">Int. Cl. ⁴ H04M 1/05</div>																							
II. FIELDS SEARCHED <div style="text-align: right; font-size: small;">Minimum Documentation Searched ⁷</div> <table style="width: 100%; border: none;"> <tr> <td style="width: 30%; border: none;">Classification System ¹</td> <td style="border: none;">Classification Symbols</td> </tr> <tr> <td style="border: none;">IPC H04M 1/05</td> <td style="border: none;"></td> </tr> <tr> <td style="border: none;">US Cl. 179/156 R</td> <td style="border: none;"></td> </tr> </table> <div style="text-align: center; font-size: x-small; margin-top: 5px;">Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁸</div> <div style="margin-top: 10px;">AU: IPC as above</div>			Classification System ¹	Classification Symbols	IPC H04M 1/05		US Cl. 179/156 R																
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III. DOCUMENTS CONSIDERED TO BE RELEVANT ⁹ <table style="width: 100%; border: none;"> <tr> <th style="width: 10%; font-size: x-small;">Category ¹⁰</th> <th style="width: 70%; font-size: x-small;">Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²</th> <th style="width: 20%; font-size: x-small;">Relevant to Claim No. ¹³</th> </tr> <tr> <td style="vertical-align: top; padding: 5px;">P</td> <td style="vertical-align: top; padding: 5px;">FR,A, 2542537 (LEFEBVRE) 14 September 1984 (14.09.84)</td> <td style="vertical-align: top; text-align: center; padding: 5px;">(1-4)</td> </tr> <tr> <td style="vertical-align: top; padding: 5px;">X,Y</td> <td style="vertical-align: top; padding: 5px;">US,A, 4179590 (SNOW) 18 December 1979 (18.12.79) See column 3 line 65 - column 4 line 16.</td> <td style="vertical-align: top; text-align: center; padding: 5px;">(1-4)</td> </tr> <tr> <td style="vertical-align: top; padding: 5px;">Y</td> <td style="vertical-align: top; padding: 5px;">US,A, 4273969 (FOLEY et al) 16 June 1981 (16.06.81)</td> <td></td> </tr> <tr> <td style="vertical-align: top; padding: 5px;">Y</td> <td style="vertical-align: top; padding: 5px;">US,A, 4289938 (ZICHY) 15 September 1981 (15.09.81)</td> <td></td> </tr> <tr> <td style="vertical-align: top; padding: 5px;">Y</td> <td style="vertical-align: top; padding: 5px;">GB,A, 1377237 (STANDARD TELEPHONES AND CABLES LIMITED) 11 December 1974 (11.12.74)</td> <td></td> </tr> <tr> <td style="vertical-align: top; padding: 5px;">A</td> <td style="vertical-align: top; padding: 5px;">US,A, 4048453 (SEIDEL) 13 September 1977 (13.09.77)</td> <td></td> </tr> </table>			Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³	P	FR,A, 2542537 (LEFEBVRE) 14 September 1984 (14.09.84)	(1-4)	X,Y	US,A, 4179590 (SNOW) 18 December 1979 (18.12.79) See column 3 line 65 - column 4 line 16.	(1-4)	Y	US,A, 4273969 (FOLEY et al) 16 June 1981 (16.06.81)		Y	US,A, 4289938 (ZICHY) 15 September 1981 (15.09.81)		Y	GB,A, 1377237 (STANDARD TELEPHONES AND CABLES LIMITED) 11 December 1974 (11.12.74)		A	US,A, 4048453 (SEIDEL) 13 September 1977 (13.09.77)	
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<div style="display: flex; justify-content: space-between; font-size: x-small;"> <div style="width: 45%;"> <p>¹⁰ Special categories of cited documents:</p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 50%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"G" document member of the same patent family</p> </div> </div>																							
IV. CERTIFICATION <table style="width: 100%; border: none;"> <tr> <td style="width: 50%; border: none; vertical-align: top;"> Date of the Actual Completion of the International Search <div style="margin-left: 40px;">4 June 1985 (04.06.85)</div> </td> <td style="width: 50%; border: none; vertical-align: top;"> Date of Mailing of this International Search Report <div style="margin-left: 40px;">(13.06.85) 13 JUNE 1985</div> </td> </tr> <tr> <td style="width: 50%; border: none; vertical-align: top;"> International Searching Authority <div style="margin-left: 40px;">Australian Patent Office</div> </td> <td style="width: 50%; border: none; vertical-align: top;"> Signature of Authorized Officer <div style="text-align: right; margin-right: 40px;">W.J. CLARKSON</div> </td> </tr> </table>			Date of the Actual Completion of the International Search <div style="margin-left: 40px;">4 June 1985 (04.06.85)</div>	Date of Mailing of this International Search Report <div style="margin-left: 40px;">(13.06.85) 13 JUNE 1985</div>	International Searching Authority <div style="margin-left: 40px;">Australian Patent Office</div>	Signature of Authorized Officer <div style="text-align: right; margin-right: 40px;">W.J. CLARKSON</div>																	
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ANNEX TO THE INTERNATIONAL SEARCH REPORT ON
INTERNATIONAL APPLICATION NO. PCT/AU 85/00053

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document
Cited in Search
Report

Patent Family Members

US 4273969

CA 1145029

END OF ANNEX